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b) mutating the finger by the method of claim 3 or 4.

02
23. (Twice amended) The method according to claim 3 or 4, wherein the binding protein comprises two or more zinc finger motifs, placed N-terminus to C-terminus.

03
26. (Twice amended) The method according to claim 3 or 4 further comprising the steps of subjecting the DNA binding protein to one or more rounds of randomization and selection in order to improve the characteristics thereof.

REMARKS

Claims 1-27 are presently pending. Several claims have been amended such that the claims depend only from claims 3 and 4. This amendment is made so that the amended claims and claims dependent therefrom fall within the group designated group II in the lack of unity requirement. In view of this amendment, it is submitted that claims 3-4, and 19-26 fall within group II.

In response to the lack of unity requirement, applicants elect group II. The requirement is traversed insofar as group II is separated from the claims of amended group IV. The group IV claims have been amended so that they depend from either claim 3 or claim 4 both of which are within group II. Accordingly, the group IV claims, as amended, include all of the elements from the group II claims, and thus have unity of invention with the group II claims.

Applicants note that the Examiner characterizes the group II claims as being directed to a method of preparing DNA. It is noted for the record that in fact, the group II claims are directed to a method of preparing a DNA binding protein.

The Examiner also requires a species election with respect to a single peptide species of the species (a)-(l) recited in claim 4. In response, applicants wish to clarify the relationship of the elements (a)-(l) recited in claim 4. These elements recite

substitution rules by which amino acids in a DNA binding polypeptide are determined from the nucleotides occupying the three positions in a triplet bound by the polypeptide. The substitution rules can effectively be divided into three groups of four. Elements (a)-(d) specify alternative substitutions depending on which of the four nucleotides occupies a 5' base in a triplet. Elements (e)-(h) specify alternative substitutions depending on which of the four nucleotides occupies the mid base in the triplet. Likewise, elements (i) to (l) specify alternative substitutions depending on which of the four nucleotides occupies the 3' base of the triplet. In operation of the method, one would use one substitution rule from elements (a)-(d), one from elements (e) to (h) and another from elements (i)-(l). The structure of the claim is thus analogous to a claim having three Markush groups, each Markush group having four members.

For these reasons, the elements from the three respective groups described above are not mutually exclusive as required by MPEP 806.04(f). Thus, requiring election of a single species from (a) to (l) is inappropriate. Rather, insofar as election is required at all, applicants should be asked to elect one species from elements (a)-(d), one species from elements (e) to (h) and another species from elements (i)-(l). In this event, applicants elect species (a), (h) and (i) respectively. In the event, the Examiner insists on electing only one of elements (a)-(l) notwithstanding their relationship as described above, applicants elect element (h). All of the elected group read on the species.

The Examiner also requires election between Zif268, GLI, Tramtrack and YY1 in claim 21. Applicants elect Zif268 without traverse. All claims from the elected group read on the species.

It is noted that at p. 5 of the lack of unity requirement, the Examiner states

The zinc polypeptide finger which contains modified amino acid residues lack the same or corresponding special technical features of a nucleic acid triplet or degenerate codons. Likewise, the different natural zinc finger proteins recited in claim 21 lack the same or corresponding technical features of each of the parent or natural zinc finger protein structure and/or function.

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These remarks are not understood, and insofar as they have any relevance to future prosecution, applicants seek clarification.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

19. (Twice Amended) A method for preparing a DNA binding polypeptide of the cys-2-His zinc finger class capable of binding to a DNA triplet in a target DNA sequence comprising 5-meC, but not to an identical triplet comprising unmethylated C comprising:

- a) selecting a model zinc finger domain from the group consisting of naturally occurring zinc fingers and consensus fingers; and
- b) mutating the finger by the method of [any one of claims 3 to 5] claim 3 or 4.

23. (Twice amended) The method according to [any one of claims 3, 4 or 5] claim 3 or 4, wherein the binding protein comprises two or more zinc finger motifs, placed N-terminus to C-terminus.

26. (Twice amended) The method according to [any one of claims 3, 4 or 5] claim 3 or 4 further comprising the steps of subjecting the DNA binding protein to one or more rounds of randomization and selection in order to improve the characteristics thereof.